

FLIP CHIP ARRAY

APPLICATIONS

- ✓ Cellular Phones
- ✓ MCM Boards
- ✓ Wireless Communication Circuits
- ✓ IR LEDs
- ✓ SMART & PCMCIA Cards

IEC COMPATIBILITY (EN61000-4)

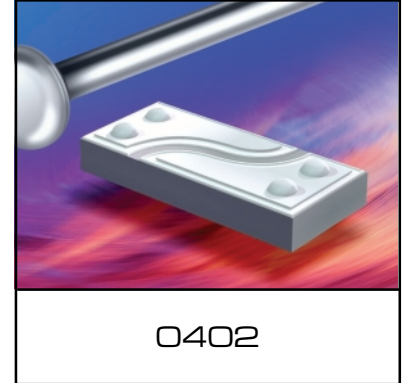
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns

FEATURES

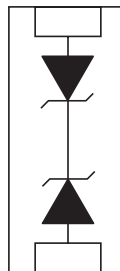
- ✓ ESD Protection > 25 kilovolts
- ✓ Available in Multiple Voltage Types Ranging From 3.3V to 36V
- ✓ 250 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- ✓ Bidirectional Configuration & Monolithic Structure
- ✓ Protects 1 Line

MECHANICAL CHARACTERISTICS

- ✓ Standard EIA Chip Size: 0402
- ✓ Weight 0.73 milligrams (Approximate)
- ✓ Flammability Rating UL 94V-0
- ✓ 8mm Plastic & Paper Tape and Reel Per EIA Standard 481
- ✓ Device Marking On Reel
- ✓ Top Contacts: Solder Bump 0.004" in Height (Nominal)



PIN CONFIGURATION



DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

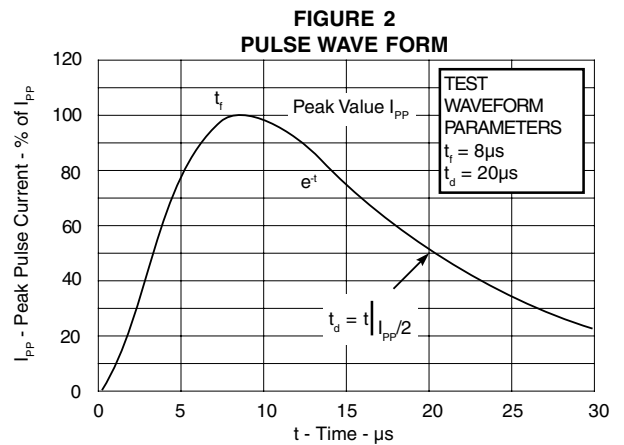
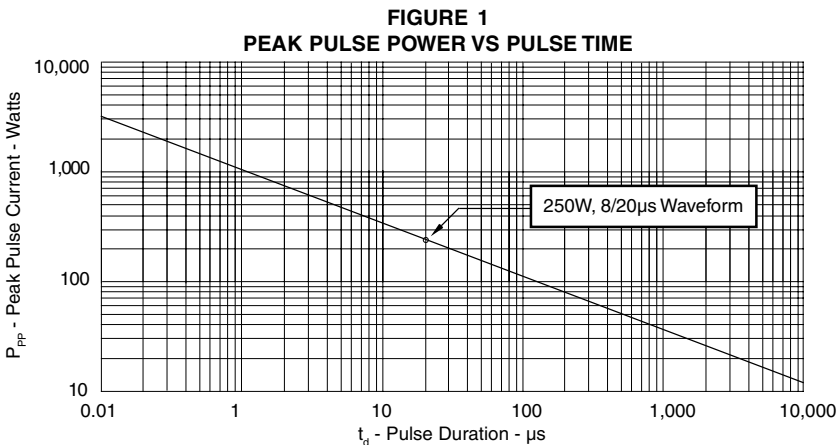
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ($t_p = 8/20\mu s$) - See Figure 1	P_{PP}	250	Watts
Operating Temperature	T_J	-55°C to 150°C	°C
Storage Temperature	T_{STG}	-55°C to 150°C	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

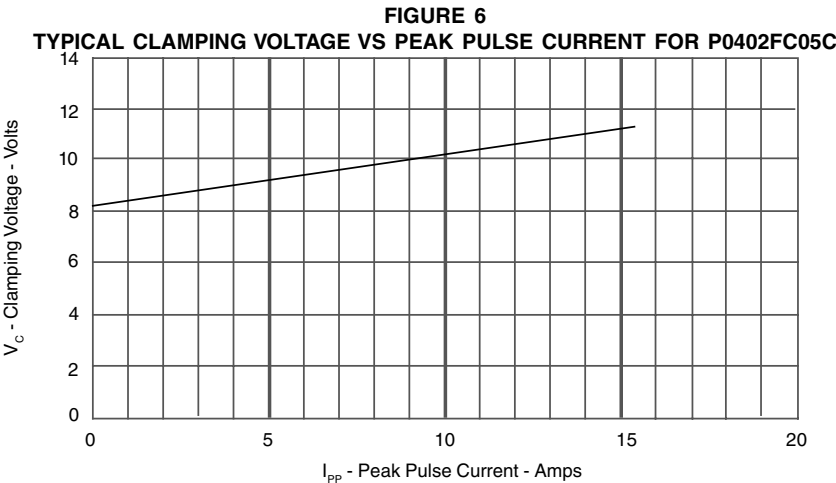
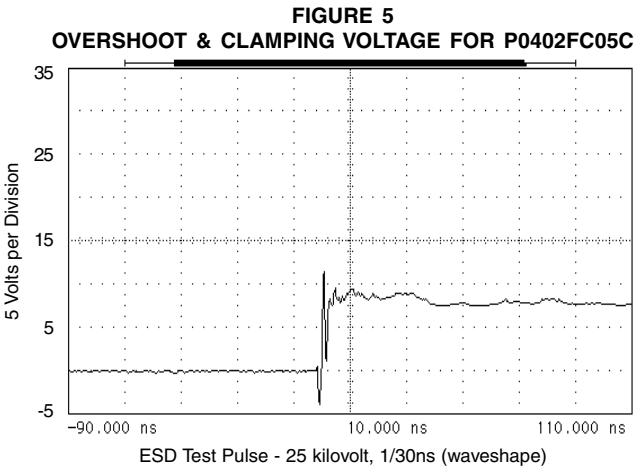
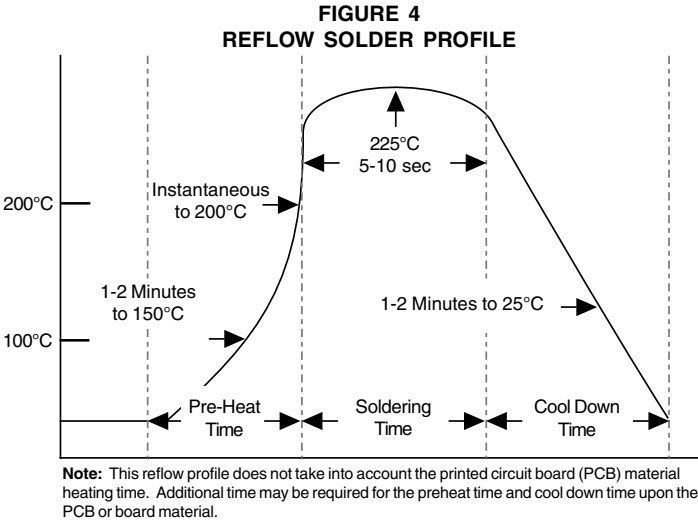
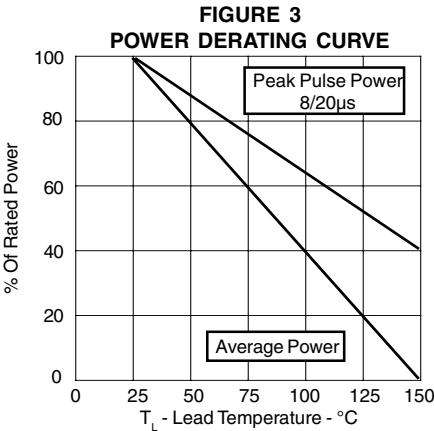
PART NUMBER (See Note 1)	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_p = 1A$ V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ 8/20 μs V_C @ I_{PP}	MAXIMUM LEAKAGE CURRENT (See Note 2) @ V_{WM} I_D μA	TYPICAL CAPACITANCE @ 0V, 1 MHz C pF
P0402FC3.3C	3.3	4.0	7.0	12.5V @ 20A	75*	150
P0402FC05C	5.0	6.0	9.8	14.7V @ 17A	10**	100
P0402FC08C	8.0	8.5	13.4	19.2V @ 13A	10***	75
P0402FC12C	12.0	13.3	19.0	29.7V @ 9.0A	1	50
P0402FC15C	15.0	16.7	24.0	35.7V @ 7.0A	1	40
P0402FC24C	24.0	26.7	43.0	55.0V @ 5.0A	1	30
P0402FC36C	36.0	40.0	64.0	84.0V @ 3.0A	1	25

Note 1: All devices are bidirectional. Electrical characteristics apply in both directions.

Note 2: *Maximum leakage current < 5 μA @ 2.8V. **Maximum leakage current < 500nA @ 3.3V. ***Maximum leakage current < 200nA @ 5V.



GRAPHS

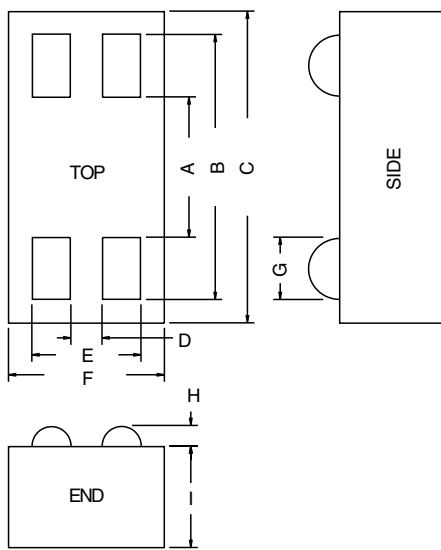
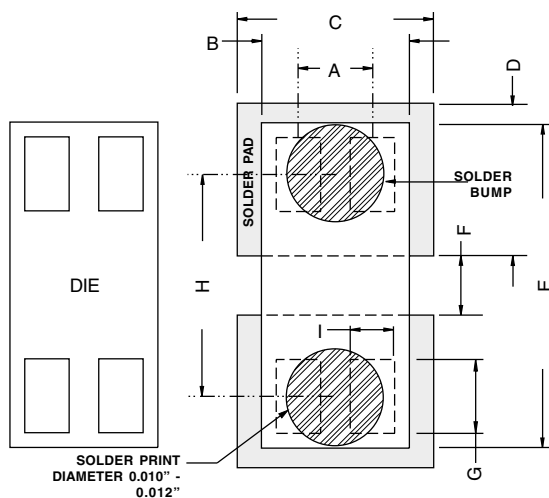
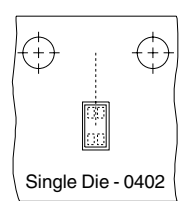


P0402FC3.3C*

thru

P0402FC36C*

PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE 	0402  PACKAGE DIMENSIONS <table><tr><th>DIM</th><th>MILLIMETERS</th><th>INCHES</th></tr><tr><td>A</td><td>0.46 NOM</td><td>0.018 NOM</td></tr><tr><td>B</td><td>0.86 NOM</td><td>0.034 NOM</td></tr><tr><td>C</td><td>0.99 ± 0.0254</td><td>0.039 ± 0.001</td></tr><tr><td>D</td><td>0.10 NOM</td><td>0.004 NOM</td></tr><tr><td>E</td><td>0.35 NOM</td><td>0.014 NOM</td></tr><tr><td>F</td><td>0.483 ± 0.0254</td><td>0.019 ± 0.001</td></tr><tr><td>G</td><td>0.20 NOM</td><td>0.008 NOM</td></tr><tr><td>H</td><td>0.127 MAX</td><td>0.005 MAX</td></tr><tr><td>I</td><td>0.076 MIN</td><td>0.003 MIN</td></tr><tr><td></td><td>0.406 NOM</td><td>0.016 NOM</td></tr></table> NOTES: 1. Controlling dimensions in inches. 2. Decimal tolerances for mounting pad and outline: .xxx ± 0.05mm (± 0.002"). 3. Maximum chip size: 1.02 (0.040") by 0.51(0.020").	DIM	MILLIMETERS	INCHES	A	0.46 NOM	0.018 NOM	B	0.86 NOM	0.034 NOM	C	0.99 ± 0.0254	0.039 ± 0.001	D	0.10 NOM	0.004 NOM	E	0.35 NOM	0.014 NOM	F	0.483 ± 0.0254	0.019 ± 0.001	G	0.20 NOM	0.008 NOM	H	0.127 MAX	0.005 MAX	I	0.076 MIN	0.003 MIN		0.406 NOM	0.016 NOM
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MOUNTING PAD  SOLDER PRINT DIAMETER 0.010" - 0.012"	PAD DIMENSIONS <table><tr><th>DIM</th><th>MILLIMETERS</th><th>INCHES</th></tr><tr><td>A</td><td>0.23</td><td>0.009</td></tr><tr><td>B</td><td>0.48</td><td>0.019</td></tr><tr><td>C</td><td>0.69</td><td>0.027</td></tr><tr><td>D</td><td>0.46</td><td>0.018</td></tr><tr><td>E</td><td>0.99</td><td>0.039</td></tr><tr><td>F</td><td>0.20</td><td>0.008</td></tr><tr><td>G</td><td>0.20</td><td>0.008</td></tr><tr><td>H</td><td>0.66</td><td>0.026</td></tr><tr><td>I</td><td>0.13</td><td>0.005</td></tr></table> NOTE: 1. Top view of tape. Metal contacts are face down in tape package. TAPE & REEL ORIENTATION  Single Die - 0402 NOTE: 1. Preferred: Using 0.1mm (0.004") stencil. Outline & Dimensions: Rev 3 - 11/02, 06001	DIM	MILLIMETERS	INCHES	A	0.23	0.009	B	0.48	0.019	C	0.69	0.027	D	0.46	0.018	E	0.99	0.039	F	0.20	0.008	G	0.20	0.008	H	0.66	0.026	I	0.13	0.005			
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TAPE & REEL ORDERING NOMENCLATURE

1. Surface mount product is taped and reeled in accordance with EIA 481.

2. 8mm Plastic Tape: 7 Inch Reels - 5,000 pieces per reel. Ordering Suffix: -T75-1 (i.e., P0402FC05C-T75-1).

3. 8mm Paper Tape: 7 Inch Reels -10,000 pieces per reel. Ordering Suffix: -T710-2 (i.e., P0402FC05C-T710-2).

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DESIGN CHANGES: ProTek reserves the right to discontinue product lines without notice, and that the final judgement concerning selection and specifications is the buyer's and that in furnishing engineering and technical assistance, ProTek assumes no responsibility with respect to the selection or specifications of such products.

ProTek Devices

2929 South Fair Lane, Tempe, AZ 85282
Tel: 602-431-8101 Fax: 602-431-2288
E-Mail: sales@protekdevices.com
Web Site: www.protekdevices.com

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